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ENGLISH TRANSLATION OF GERMAN APPLICATION TEXT AS FILED

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VERIFICATION OF TRANSLATION

I, Michael Wallace Richard Turner, Bachelor of Arts, Chartered Patent Attorney, European Patent Attorney, of 1 Horsefair Mews, Romsey, Hampshire SO51 8JG, England, do hereby declare that I am conversant with the English and German languages and that I am a competent translator thereof;

I verify that the attached English translation is a true and correct translation made by me of the attached specification in the German language of International Application PCT/EP2004/008877;

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Boundary layer adapter

The present invention relates to a boundary layer adapter for receiving a microphone.

In the case of directional microphones which are set down for example on a table top in order to be used as a table microphone or as a conference microphone, simply fixing the microphone on the table top is often not readily possible.

Therefore the object of the invention is to provide a boundary layer or interface adapter which makes it possible for a microphone to be operated readily on a top or plate or a support surface.

That object is attained by an interface adapter as set forth in claim 1 and claim 6.

Therefore there is provided an interface adapter for receiving a microphone, wherein the interface adapter comprises a receiving unit having a through hole for receiving a microphone and an arresting unit for arresting a received microphone.

That permits the microphone to be easily fixed on a boundary surface or interface such as for example on a table top, a glass plate, tiles, wooden floors, concrete floors and the like. In other words the use of the interface adapter defines an interface which plays an important part in audio recording.

In accordance with a configuration of the invention the interface adapter has a guide unit for guiding a received microphone. The resistance to tipping of the interface adapter is substantially increased by means of the guide unit.

In accordance with a further configuration of the invention the interface adapter has means for solid-conducted sound decoupling.

In accordance with a further configuration of the invention the means for solid-conducted sound decoupling are in the form of rubber rings, thereby improving both the solid-conducted sound decoupling effect and also the resistance to slipping.

In accordance with a further configuration of the invention a buffer is provided in the through hole in the receiving unit. The buffer protects the microphone from damage which can occur when arresting the microphone.

Further configurations are the subject-matter of the appendant claims.

The invention and embodiments by way of example thereof are described in detail hereinafter with reference to the drawing in which:

Figure 1 shows an interface adapter and a microphone to be received thereby in accordance with a first embodiment,

Figure 2 shows an interface adapter with a microphone received therein,

Figure 3 shows an interface adapter in accordance with a second embodiment,

Figure 4 shows the interface adapter of Figure 3,

Figure 5 shows the underside of the interface adapter of Figure 3,

Figure 6 shows the undersides of the various components of the interface adapter of Figure 3,

Figures 7 and 8 show guide elements of the interface adapter of Figure 3,

Figure 9 shows all component parts of the interface adapter of Figure 3, and

Figure 10 shows an interface adapter in accordance with a third embodiment.

Figure 1 shows both the interface adapter 1 and also the microphone 100 to be received. The interface adapter substantially comprises a cylindrical main body 2 and a guide element 4. The cylindrical main element 2 has a through hole 3 which is aligned with the guide element in such a way that, when a microphone 100 is passed through the through hole 3, it is received by the guide element 4 on the other side of the main

element and guided in the guide element. A preferably resilient microphone abutment 5 is provided at the end of the guide element 4, which is remote from the main element 2. The cylindrical main element 2 has two rubber rings 6 at each of its two ends 1a, 1b. Provided in the through hole 3 is an elastic guide sleeve 7 of an inside diameter corresponding substantially to the outside diameter of the microphone 100. A screw connection is provided at the first end 1a of the main element 2 in such a way that a microphone inserted into the through hole 3 and into the guide sleeve 10 is arrested or clamped fast in position by rotating the first end 1a of the main element 2.

Figure 2 shows the interface adapter 1 and the microphone 100 of Figure 1. In Figure 2, the microphone 100 has been introduced through the through hole 3 and arrested in position by rotating the first end 1a of the main element 2. In this case the microphone is pushed through the through hole 3 to such an extent that it bears with its one end against the microphone abutment 5.

When introducing and arresting the microphone 100, care is to be taken to ensure that the receiving portion 110 of the microphone is not obstructed by the guide elements 4 or the abutment 5.

The T-shaped combination consisting of the cylindrical main element 2 and the guide elements 4 ensures that the microphone 100 when inserted into the interface adapter cannot tilt. As only the O-shaped rubber rings 6 and the elastic microphone abutment 5 come into contact with a boundary layer or interface such as for example a glass plate, a table top, a tile, a wooden floor or a concrete floor, the interface adapter is decoupled from the solid-conducted sound of the interface. As the microphone 100 which is received in the interface adapter in turn comes into contact with the interface adapter only at the microphone abutment 5 and the guide sleeve 7 and as those two elements are each of an elastic nature the microphone is also decoupled from the solid-conducted sound of the interface adapter 1.

Preferably a directional microphone is used as a microphone 100, but other microphones are also suitable for being received in the interface

adapter as long as the outside diameter of the microphone substantially corresponds to the inside diameter of the guide sleeve. Apart from the above-described screw connection between the first end 1a and the guide sleeve 7, other connections such as for example a clamping means are also possible, for arresting the microphone 100 in the interface adapter.

Introducing the microphone 100 into the interface adapter 1, arresting the microphone 100 and actuating the above-described clamping means provides that a microphone can be securely received in the interface adapter 1 and then oriented and positioned on the interface as desired.

The above-described interface adapter provides for fixing a microphone on an interface such as for example a table top. Solid-conducted sound decoupling is achieved by the provision of the rubber rings 6 and the microphone abutment 5 as well as the elastic guide sleeve 7. The elastic guide sleeve 7 further serves for protecting the microphone in the clamping connection or in regard to the arresting means. The fact that the microphone 100 is only releasably connected to the interface adapter 1 means that the microphone can be used both as an interface microphone and also in other ways when it is removed from the interface adapter.

The rubber rings 6 as well as the provision of a given weight in respect of the base element 2 serve to provide that the interface adapter can be placed in a non-slip fashion on a plate or top.

Figure 3 shows an interface adapter in accordance with a second embodiment. That adapter has three guide elements 4 each for receiving a respective microphone 100. In contrast to the first embodiment where the guide element 4 is implemented by two bars, the guide element 4 in the second embodiment is implemented substantially by a groove 42. The three guide elements 4 are assembled in a star configuration and a cover element 20 covers that region where the three guide elements 4 meet.

Figure 4 shows the interface adapter in accordance with the second embodiment, as illustrated in Figure 3, but in this case the cover element 20 has been removed so that a connecting element 30 which connects the three guide elements together is visible.

Figure 5 shows the underside of the interface microphone of Figure 3. In this case the connecting element 30 can be clearly seen. This connecting element 30 is of a circular configuration in the second embodiment. It has five recesses 31, a long recess 32 and a hole 33 in the center of the connecting element. The recesses 31 and 32 serve to pass through the microphone cables of those microphones which are mounted in the guide elements 4.

Figure 6 shows the underside of the interface adapter of Figure 3. Here it is possible to see in particular the four different main elements of the interface adapter, namely the circular connecting element 30 and the three guide elements 4.

Figure 7 shows a guide element 4. A microphone is fitted into the groove 42 of the guide element 4 and fixed to the guide element 4 with a clamp 41.

Figure 8 shows three guide elements 4 each having a groove 42 for receiving a microphone.

Figure 9 shows all component parts required for the interface adapter in accordance with the second embodiment. The interface adapter thus comprises three guide elements 4, a connecting element 30, a cover element 20 and three clamps 41. The three guide elements 4 are fixed to the connecting element 30. The microphones 100 can then be fitted into the grooves 42 in the guide elements 4 and fixed with the respective clamps 41. Finally the cover element 20 is placed over the guide elements 4 and fixed to the connecting element 30 preferably with a screw connection.

Figure 10 shows an interface adapter in accordance with a third embodiment. The interface adapter in accordance with the third embodiment is based on the individual elements of the interface adapter of the second embodiment. In particular the guide elements 4 are identical to the guide elements of the second embodiment. Only a connecting element 30 and a cover element 20 have to be adapted in respect of their structure in such a way that only two guide elements 4 are received.

Accordingly, based on the component parts of the interface adapter in accordance with the second embodiment, it is possible to provide an interface adapter having two, three, four, five etc guide elements. The geometrical configuration of the guide elements 4 can be of any desired nature as long as it is ensured that a microphone 100 can be disposed in a groove-shaped recess 42.

By virtue of the above-described modular system in accordance with the second embodiment it is thus possible to assemble as desired an interface adapter of the required geometry.